09:00 REGISTRATION

10:00 Welcome Address - Henrik Nordborg, NAFEMS MPWG   Klaus Wolf, Fraunhofer SCAI
Moji Moatamedi, International Society of Multiphysics   Tim Morris, NAFEMS

10:30 PLENARY

KEYNOTE **Multiphysics CAE: A Necessity for Durable and Reliable Vehicle Design - P. Khapane, Jaguar & Land Rover**

KEYNOTE **Fluid, Solid and Radiation Modelling in Multiphysics Systems - C. Pain, Imperial College London**

KEYNOTE **Low Voltage Circuit Breaker Arc Interruption – A Multiphysics Modeling Challenge - C. Rümpler, Eaton London**

Multiphysics Comes Alive: Capturing the Behavior of a Living Human Heart - K. Dsouza & S. Levine, SIMULIA

14:00 FLUID STRUCTURE INTERACTION 1

Evaluation of Fluid-Structure Interaction Involving Abaqus and STAR-CCM+ for Industrial Use
M. Hodapp & A. Avci, Festo

Multiphysics Simulation of the Aeroelasticity of Aircraft Wings
C. Wolfe, ANSYS

Coupled Fluid-structure Interaction Simulations for Aero-Elastic Benchmark Cases
B. Landvogt, Fraunhofer SCAI

Large-Scale One-Way Coupled Analysis with Open-Source Parallel FEM Software
G. Hashimoto, H. Okuda, T. Tanuma, Y. Fukui, N. Shibukawa & K. Okuno, University of Tokyo

A Coupled Euler Lagrangian Finite Element Approach to Flexible Pipe Seabed Interaction During Dropped Object Impact
Alistair Gill, Prospect Flow Solutions Ltd.

Multiphysics Solutions in Offshore Engineering
J. White, Prospect Flow Solutions Ltd.

A Computational Method for Interface Problems in Multiphysics Applications
V. Gravemeier & W. A. Wall, AdCo Engineering GmbH

17:30 DRINKS RECEPTION

Keynotes …

PRASHANT KHAPANE
Manager of Durability & Reliability CAE, Jaguar & Land Rover

PROFESSOR CHRISTOPHER PAIN
Research Fellow, Imperial College London

CHRISTIAN RÜMPLER
Corporate Research & Technology, Eaton

WOLFGANG GENTZSCH
Founder of Uber Cloud

HEAT TRANSFER 1

Numerical Simulation of Heat Exchanger using Two Stage FSI
K. Ganesan, S. Zakrzewski & T. Stoltzner Rasmussen, FLSmidth Pvt Ltd, Chennai, FLSmidth A/S, Valby

Multi-Material Heat Transfer Analysis of an Engine Cylinder Head
P. Tibaut & A. Poredos, AVL-AST

Conjugate Heat Transfer and Multi-Phase Analysis for Incompressible Flows
F. Del Pin, I. Caldichoury, R.R. Paz & B. Boll, N. Karajan, Livermore Software Technology Corporation (LSTC), DYNAmore GmbH

Simulating Aggregate Drying using Coupled CFD and DEM Methods
A. Anderson, ANSYS

Simulation of Wood Combustion in a Fixed Bed using CFD-DEM Coupling (XDEM)
A. Houshang Mahmoudia & B. Peters, University of Luxembourg; M. Markovic & G. Brem, Energy Technology

Simplified Approach to Modelling Sonic Gas Dispersion for Offshore Well Test Operations
N. Patel, G. Howat, S. Roberts, Expro North Sea Ltd.

Swelling of Polymers by Applying Coupled Physio-Chemical Modeling in Finite Element Analysis
M. Achenbach, Polymer Consulting

day two
Wed 22nd Oct

08:30

PLENARY

KEYNOTE **Smart Manufacturing: CAE as a Service, On Demand, in the Cloud - W. Gentzsch, Uber Cloud**

Two Tier Parallel Computation for Stochastic Thermo-Mechanical Modeling of Nuclear Graphite Reactor Cores
L. Margetts, University of Manchester

09:35

FLUID STRUCTURE INTERACTION 2

Bi-directionally Coupled CFD and Multi-Body Dynamics Solvers Applied to Tanker Truck Vehicle Dynamics
J. Quigley, M. Barton & D. Corson, Altair Engineering

Coupling of Structural and Multibody Mechanics in Switchgear Development
C. Simonidis, R. Schmoll & B. Schweizer, ABB Corporate Research Center

Simulation of Vertical Axis Wind Turbines with Moving Blades
H. Nordborg, HSR Switzerland

Piezoelectric–Structural–Fluids Analysis for an Ink-Jet Printer Nozzle
M. Tooley, C. Wolfe, ANSYS

Development of a Micro Gas Turbine with Ceramic Impeller: SCAI Tools for Stress and Vibration Analyses
N. Wirth, Fraunhofer SCAI

13:00

ACOUSTICS

Acoustic Analysis of Fuel Tank Sloshing during Braking
D. Marriott, MSC.Software

Multiphysics Software: Comparing Best-of-Class Approach Against All-in Strategy
A. Svobodnik, Konzept-X GmbH

Multi-Body Dynamics and Acoustic Simulation for Gear Application
J. Beuse, T. El-Dsoki, B. Ruschlau & W. Simon, MSC.Software GmbH

High Performance Computation Codes for Vibroacoustic Simulation in the Automotive Field
G. Miccoli, C. Bertolini & K. Vansant, IMAMOTER Institute – National Research Council (C.N.R.)

17:00

OPTIMIZATION

Optimizing Fatigue Life Using Automated Sequential Coupling in the Loop
J. Quigley, Altair Engineering; J. Mentely, HBM - nCode Products

Improve Pump Diaphragm Reliability
Y. Wang, Parker Hannifin Corporation

Design of Experiments (DOE) Study of the Induction Hardening Process
J. Farrar, Wilde Analysis Ltd.

Simulation of the Material Behaviour of Sheets During the Deep Drawing of Vehicles Bodies
O. Boussaid & W. Ghennai, University of Annaba; H. Soltani & F. Z. Boussaid, University of Tizi Ouzou

16:30 CLOSE

ELECTROMAGNETICS

Electromagnetics Structural Coupling Simulation of Electric Motor
M. Senousy, P Larsen & P. Ding, ANSYS Inc.

Simulation of a Folded Dielectric Elastomer Actuator
S. Scampoli, D. Looman & E. Antonova, ANSYS Inc.

Hysteretic Behaviour of Microbeam Structure in Electro-Elastic Analysis
Y. Qian, ANSYS

Noise Prediction for Electric Motors by Coupling Electromagnetic and Vibroacoustic Simulation Tools
G. Kumar, LMS, A Siemens Business

HEAT TRANSFER 2

Innovative Developments in the Simulation of Ultraviolet Disinfection Systems
S. Leefe, Wilde Analysis Ltd

Multiphysics simulations of Irradiation Damage Collision Cascades
C.P. Race, University of Manchester; D.R.Mason, Culham Centre for Fusion Energy; A.P.Sutton, Imperial College London

Simulating Coupled Neutron-Fluid-Heat Transfer for the Study of Unintended Operating Scenarios in Pressure Water Reactors using an Immersed Body Modelling Technique
A.G. Buchan, S. Jewer, C.C. Pain, D. G. Cacuci & M. Moatamedi, Imperial College London

COUPLED ANALYSES

A Novel Co-Simulation Algorithm for Handling Field-Signal Interaction
A. Kürkchübasche, S. Sicklinger, V. Belsky & K.-U. Bletzinger, SIMULIA

Fluid-Structure Interaction with Controls for Wind Turbine Simulation using a Novel Co-Simulation Approach
S. Sicklinger, A. Kürkchübasche, V. Belsky, R. Wüchner & K.-U. Bletzinger, SIMULIA

A Comprehensive Integration Methodology Based on Multiphysics Cosimulation. Case study: Electro-Thermal Simulation of a Drilling System in a Harsh Environment
M. Garay, M. Bareille, E. Lopez Hidalgo & J. Leboi, Altran Sud Oest

Fast, Exact Fully Coupled ODE Systems in Time Integration Schemes
J. Betran, ALSTOM Wind